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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/082,737	02/25/2002	Juergen Dirks	01-158 1496.00186	4705

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LSI LOGIC CORPORATION
1621 BARBER LANE
MS: D-106
MILPITAS, CA 95035

EXAMINER	
TRIMMINGS, JOHN P	

ART UNIT	PAPER NUMBER
2133	

DATE MAILED: 06/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/082,737	DIRKS ET AL.	
	Examiner	Art Unit	
	John P. Trimmings	2133	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 April 2005 and 06 June 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4,6,7,10,11 and 13-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *11 and 13-20* is/are allowed.

6)☒ Claim(s) *1-4,6,7 and 10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *15 November 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *4/29/2002*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

This Office Action is in response to the applicant's amendment of 4/22/2005 and RCE of 6/6/2005.

The applicant has cancelled Claims 5, 8, 9, 12.

The applicant has amended Claims 1, 10 and 11.

Claims 1-4, 6-7, 10-11 and 13-20 are pending.

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 6/6/2005 has been entered.

Response to Arguments

2. Applicant's arguments, see amendment dated 4/22/2005, with respect to independent Claim 11 and dependent Claims 13-20 have been fully considered and are persuasive. The rejections under 35 USC 103(a) of Claims 11 and 13-20 have been withdrawn.

3. Applicant's arguments with respect to claims 1-4, 6-7 and 10 have been considered but are moot in view of the new grounds of rejection (see below).

Claim Rejections - 35 USC § 103

4. Claims 1-4, 6-7 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scheck, U.S. Patent No. 6381719, in view of Wrape et al., U.S. Patent No. 5907562. Based upon the earlier effective U.S. filing date of the Scheck reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

As per Claim 1:

Scheck teaches an apparatus comprising: one group of boundary scan cells (FIG.1); one group buffer (column 3 lines 45-47 and FIG.1 104) coupled to said group of boundary scan cells (FIG.1 112); one repeater buffer coupled in series with said group buffers (FIG.3 320); and a controller coupled to said group of boundary scan cells through said group buffer and said repeater buffer (FIG.1 104), wherein said apparatus is configured to buffer said groups of boundary scan cells to reflect an order of I/Os around said apparatus (FIG.4A u2 and dout). But Scheck fails to teach one or more flip flops each configured to provide a scan enable output; and a scan enable signal configured to control a scan connection between each of said flip flops. But in the analogous art of Wrape et al., these features are specifically taught in FIG.5, and column 1 lines 65-67 and column 2 lines 1-16. And column 1 lines 61-63 states the

advantage being a scan path test structure which dissipates less power than the prior art. One with ordinary skill in the art at the time of the invention, motivated as suggested, would have found it obvious to use the flip flop circuit of Wrape et al. in the scan test circuit of Scheck et al. in order to decrease power consumption of the circuit during normal operation.

As per Claim 2:

Scheck further teaches the apparatus according to claim 1, wherein said group of boundary scan cells comprise a scan chain (column 2 lines 57-59). And in view of the motivation previously stated, the claim is rejected.

As per Claim 3:

Scheck further teaches the apparatus according to claim 2 wherein said repeater buffers are configured to eliminate skew at the beginning pins and end pins of the scan chain (see Abstract). And in view of the motivation previously stated, the claim is rejected.

As per Claim 4:

Scheck further teaches the apparatus according to claim 1 wherein said apparatus further comprises: one or more boundary scan control nets configured to control said group of boundary scan cells (FIG.7 402). And in view of the motivation previously stated, the claim is rejected.

As per Claim 6:

Scheck further teaches the apparatus according to claim 1, wherein each boundary scan cell of said group of boundary scan cells are implemented within an I/0 cell (FIG.4A dout). And in view of the motivation previously stated, the claim is rejected.

As per Claim 7:

Scheck further teaches the apparatus according to claim 1, wherein said apparatus comprises a clock chain in a first direction and a data path in an opposite direction of said first direction (column 8 lines 21-25). And in view of the motivation previously stated, the claim is rejected.

As per Claim 10:

Scheck teaches an apparatus comprising: means for implementing one group of boundary scan cells (FIG.1); means for implementing one group buffer coupled to each one said groups of boundary scan cells (column 3 lines 45-47 and FIG.1 120); means for implementing one repeater buffer coupled in series with said group buffer (FIG.3 320); and means for controlling coupled to said groups of boundary scan cells through said group buffer and said and repeater buffers (FIG.7 402); means for buffering said group of boundary scan cells to reflect an order of I/Os around said apparatus (column 1 lines 39-43, 58-63). But Scheck fails to teach a means for providing a scan enable output; and means for controlling a scan connection between one or more flip flops. But in the analogous art of Wrape et al., these features are specifically taught in FIG.5, and column 1 lines 65-67 and column 2 lines 1-16. And in view of the motivation previously stated for Wrape et al., the claim is rejected.

Allowable Subject Matter

5. Claims 11 and 13-20 are allowed. The following is an examiner's statement of reasons for allowance: The reference art of Fisher teaches a method for optimizing buffers of Scheck et al. by reading a netlist, I/O order list, grouping the lists, determining a last connection, and finalizing the list. However, the prior arts of record taken alone, or in combination failed to teach, anticipate, suggest, or render obvious the claimed invention or the method steps of the application. Specifically, as per independent Claim 11, the prior arts failed to teach, anticipate, suggest, or render obvious the limitation introduced into these claims, namely: determining if starting a new group is necessary. Consequently, Claim 11 is allowed over the prior arts of record. Claims 13-20 are directly or indirectly dependent upon Claim 11, and therefore are also allowable over the prior arts of record. Therefore claims, 11 and 13-20 are allowed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John P. Trimmings whose telephone number is (571) 272-3830. The examiner can normally be reached on Monday through Thursday, 7:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert DeCady can be reached on (571) 272-3819. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

John P Trimmings
Examiner
Art Unit 2133

jpt

ALBERT DECADY
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100